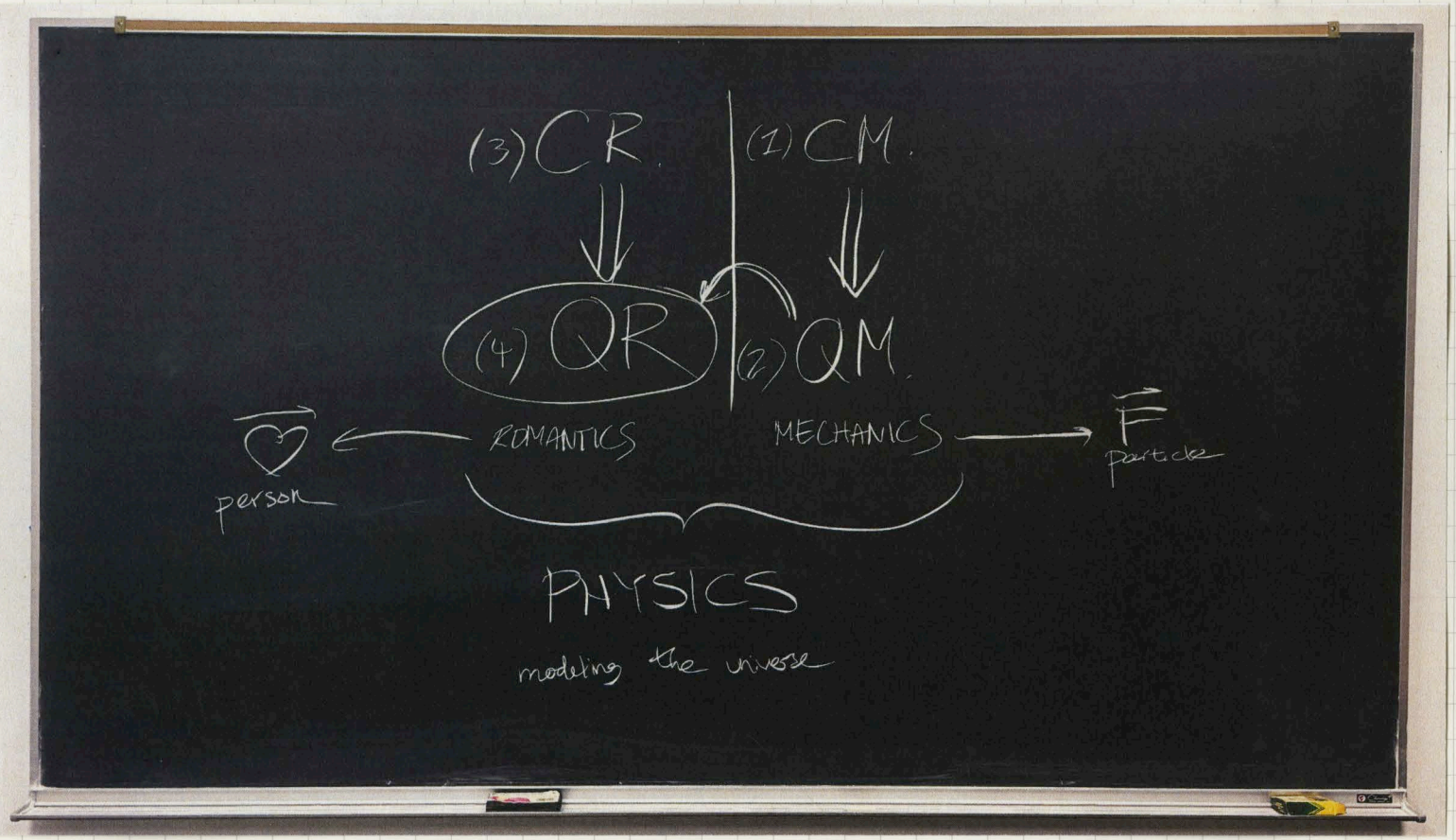
CHALKBOARDS


(3) CR
(1) CM
(4) QR
(2) QM
ROMANTICS
MECHANICS
person
particle
PHYSICS
modeling the universe

QM

SPIN

(classical) $\vec{\mu}$

↳ $\mu_z = |\vec{\mu}| \underbrace{\cos\theta}_{\infty}$

↳ $(-|\mu|, +|\mu|)$

ACTUAL: $\mu_z = \pm \frac{\hbar}{2}$ } DISCRETE, FINITE

↓

spin-$\frac{1}{2}$

(NEW TO QM)

POSITION & MOMENTUM

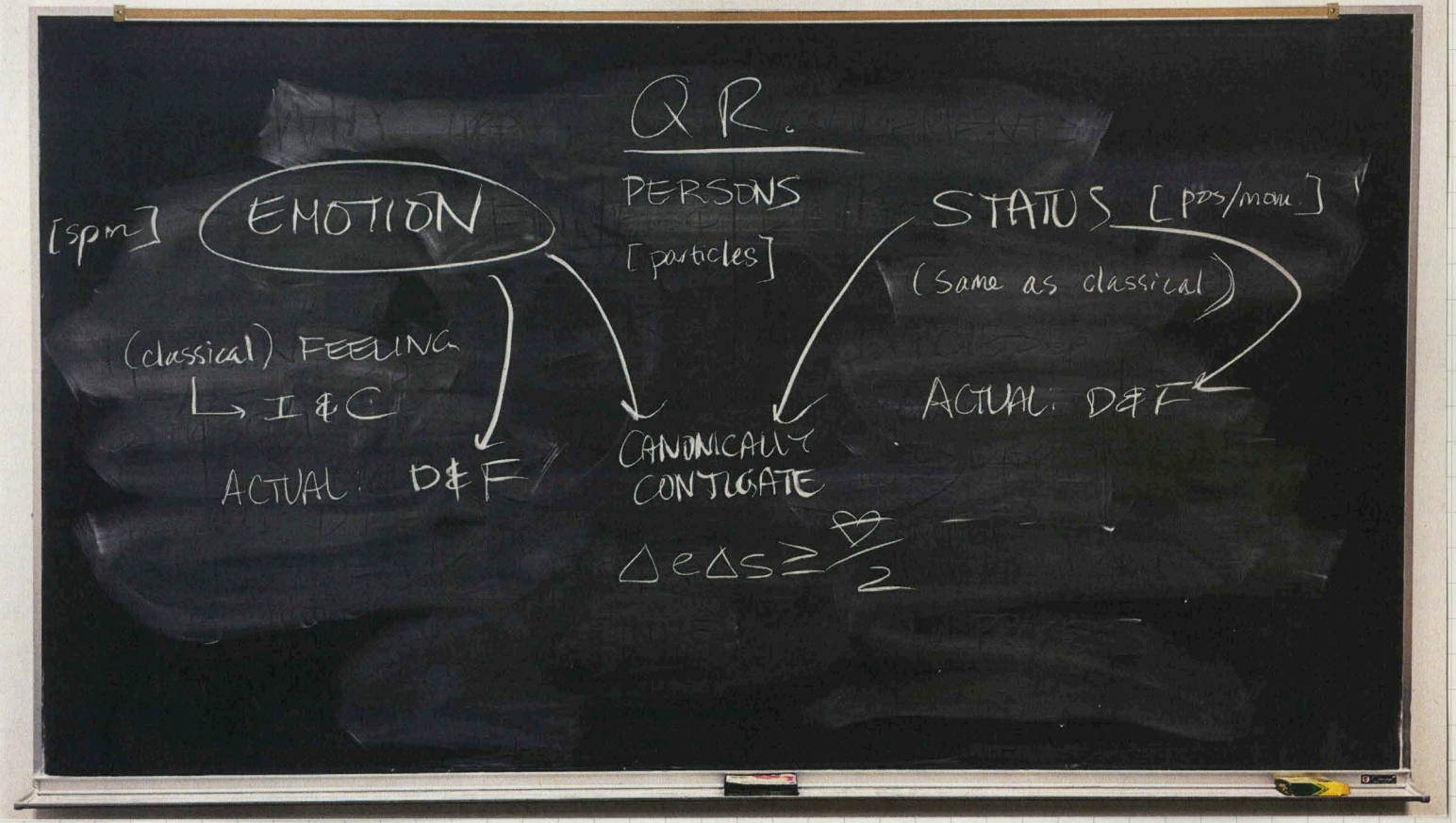
(same as classical)

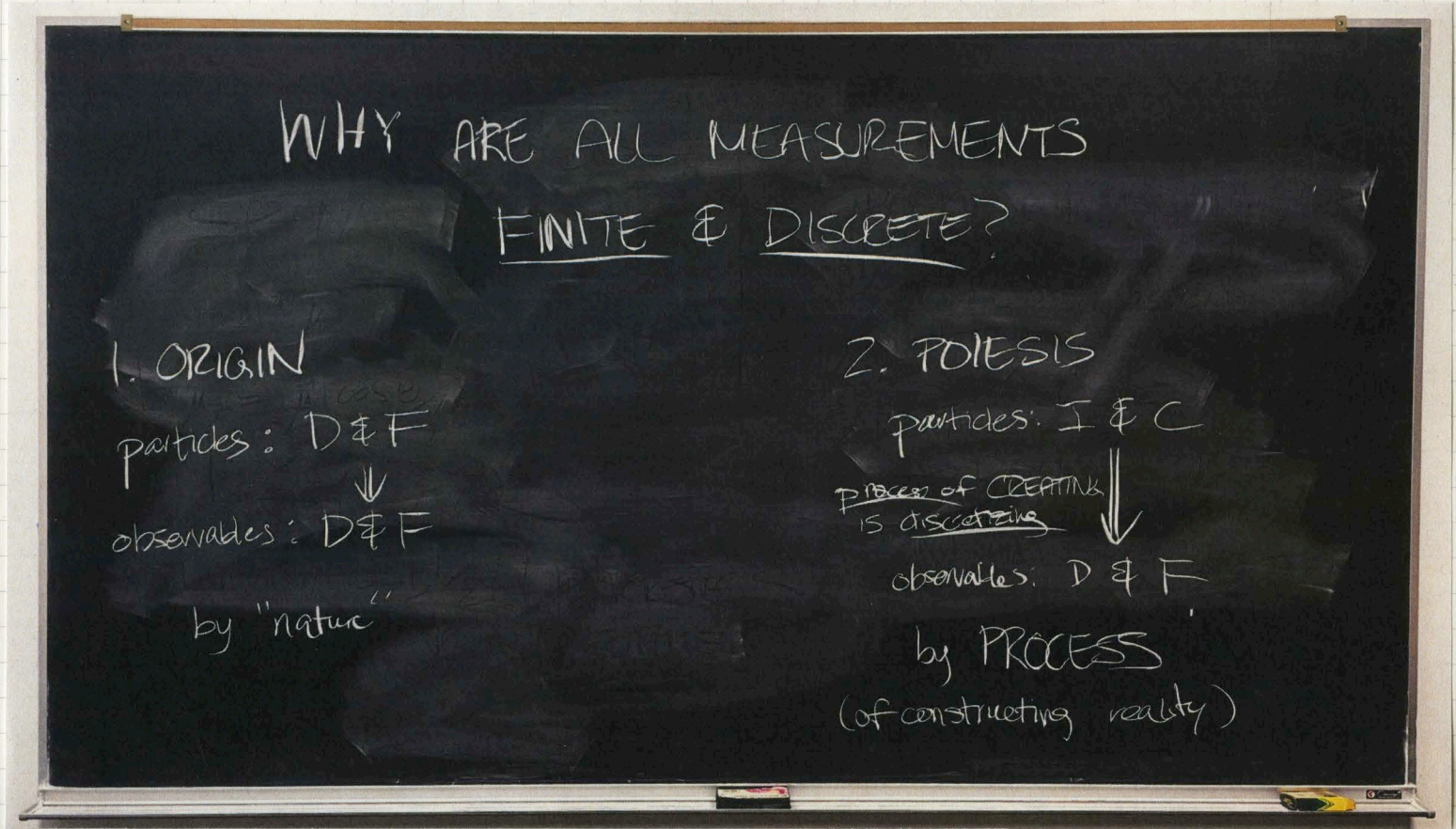
$\vec{x}$ & $\vec{p}$

ACTUAL:

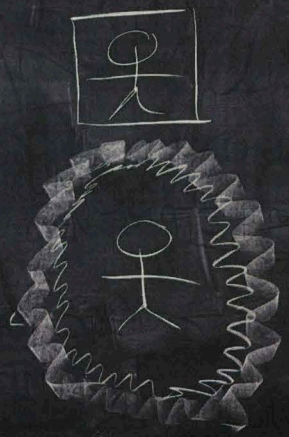
↳ DISCRETE, FINITE

CANONICALLY CONJUGATE. $\Delta x \Delta p \geq \frac{\hbar}{2}$


QR.
PERSONS
[particles]
[spm]
EMOTION
(classical) FEELING
↳ I & C
ACTUAL: D & F
CANONICALLY CONJUGATE
ΔeΔs ≥ ℏ/2
STATUS [pzs/mom]
(same as classical)
ACTUAL: D & F


WHY ARE ALL MEASUREMENTS FINITE & DISCRETE?
1. ORIGIN
particles: D & F
observables: D & F
by "nature"
2. POIESIS
particles: I & C
process of CREATING is discretizing
observables: D & F
by PROCESS
(of constructing reality)

WHY ARE ALL INTERACTIONS FINITE & DISCRETE?



1. ORIGIN

persons: D&F

⇓

interactions: D&F

by "nature"

2. POIESIS

persons: I&C

process of COMMUNICATING is discretely

⇓

interactions: D&F

by PROCESS

of creating relationships

QM

spin-½: $|+z\rangle$ $|-z\rangle$

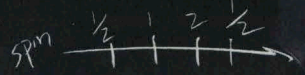
$|\tfrac{1}{2},+\tfrac{1}{2}\rangle$ $|\tfrac{1}{2},-\tfrac{1}{2}\rangle$

spin-1: $|1,1\rangle$ $|1,0\rangle$ $|1,-1\rangle$

⋮

higher spin, more bases

diff particles diff spin: (?) ≠ (?)



QR

emot-½: |❤⟩ |💔⟩

"LOVES ME" "LOVES ME NOT"

emot-1: |❤⟩ |😕⟩ |❤‍🩹⟩

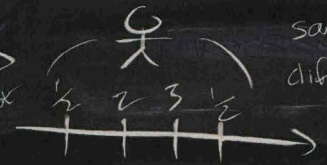
"IT'S COMPLICATED"

⋮

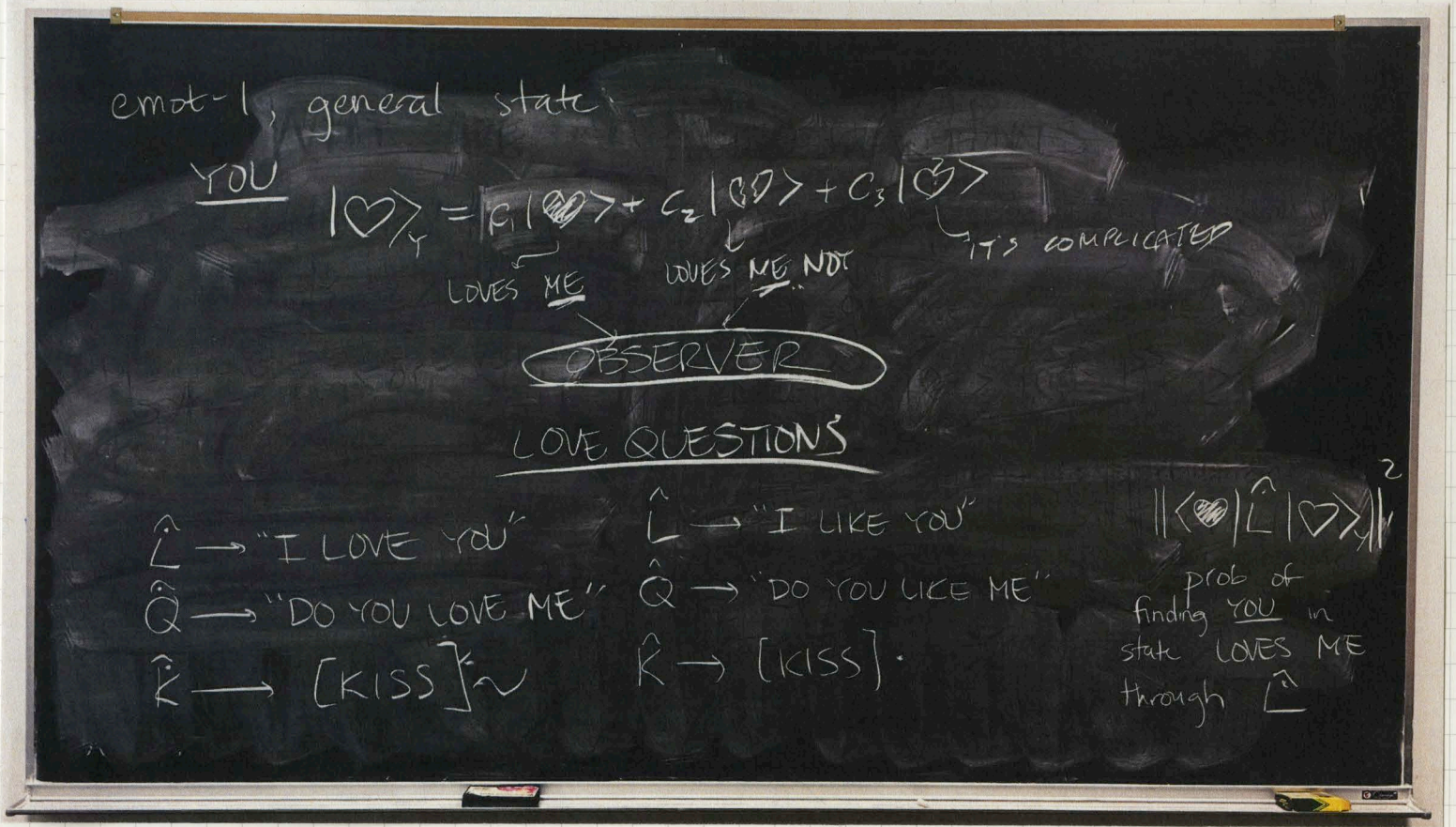
higher emot, more SHADES OF COMPLICATION

|❤⟩ & |💔⟩ always possible!

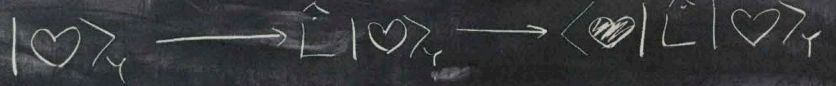
TEMPORAL MUTABILITY (T.C)



same 🧍, diff. emot values!


emot-1, general state:
YOU
$|\heartsuit\rangle_Y = c_1|\heartsuit\rangle + c_2|\heartsuit\rangle + c_3|\heartsuit\rangle$
LOVES ME
LOVES ME NOT
IT'S COMPLICATED
OBSERVER
LOVE QUESTIONS
$\hat{L}$ → "I LOVE YOU"
$\hat{Q}$ → "DO YOU LOVE ME"
$\hat{K}$ → [KISS]
$\hat{L}$ → "I LIKE YOU"
$\hat{Q}$ → "DO YOU LIKE ME"
$\hat{K}$ → [KISS]
$\|\langle\heartsuit|\hat{L}|\heartsuit\rangle_Y\|^2$
prob of finding YOU in state LOVES ME through $\hat{L}$

to make a measurement:-



ASK ⇓ produces CHANGE

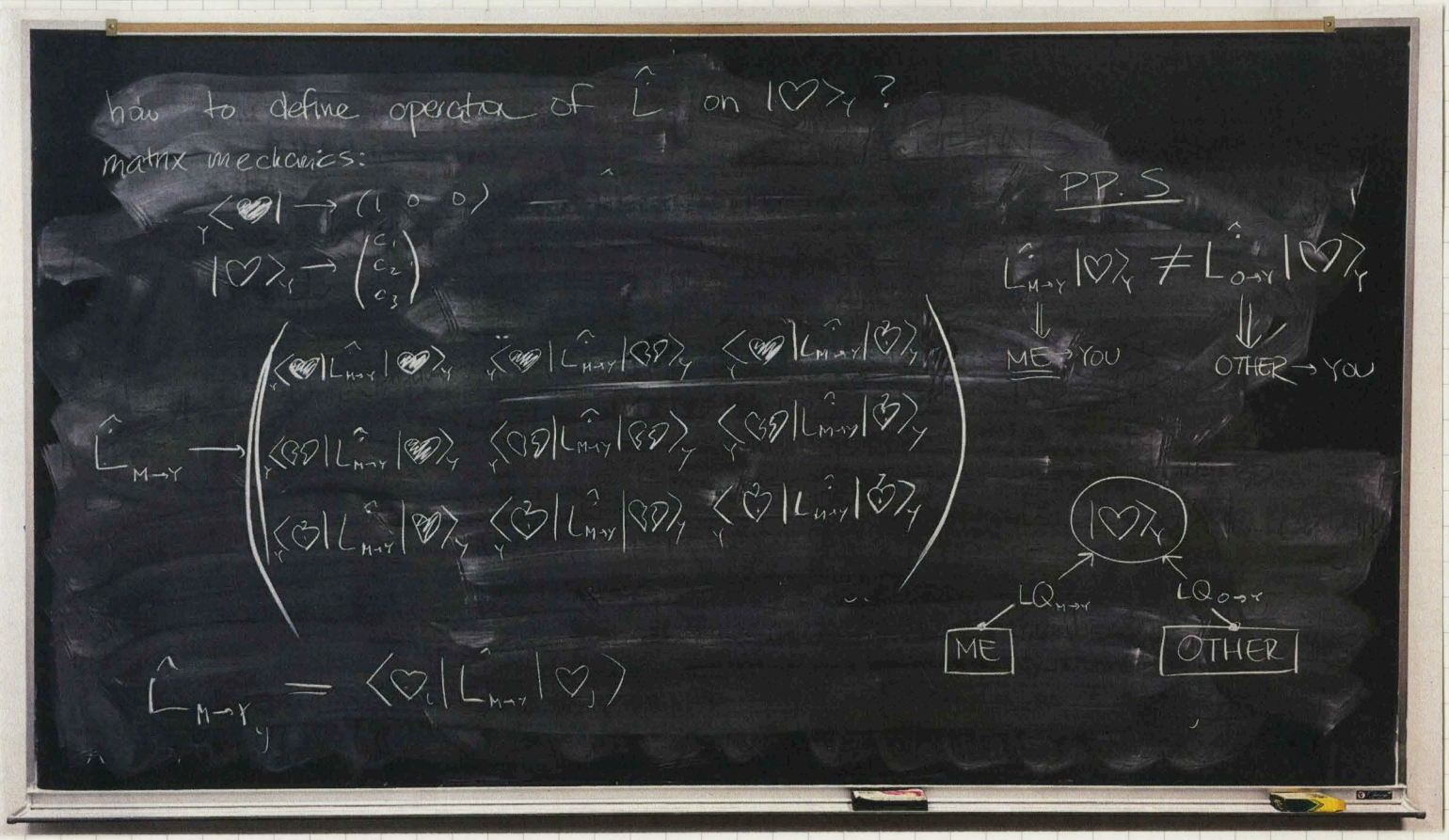
ANSWER ⇓ produces CHANGE

i. LQs are NECESSARY for ALL measurements on emot states.

$$\Rightarrow \| {}_{Y}\langle \heartsuit | \heartsuit \rangle_{Y} \|^2 = \text{UNDEFINED}$$

⇒ ii. emot states need not be normalized

⇒ iii. LQs must include normalization.


how to define operator of $\hat{L}$ on $|\heartsuit\rangle_Y$?
matrix mechanics:
$_Y\langle\heartsuit| \rightarrow (1\ 0\ 0)$
$|\heartsuit\rangle_Y \rightarrow \begin{pmatrix} c_1 \\ c_2 \\ c_3 \end{pmatrix}$
$\hat{L}_{M\to Y} \rightarrow \begin{pmatrix} {}_Y\langle\heartsuit|\hat{L}_{M\to Y}|\heartsuit\rangle_Y & {}_Y\langle\heartsuit|\hat{L}_{M\to Y}|\diamondsuit\rangle_Y & {}_Y\langle\heartsuit|\hat{L}_{M\to Y}|\spadesuit\rangle_Y \\ {}_Y\langle\diamondsuit|\hat{L}_{M\to Y}|\heartsuit\rangle_Y & {}_Y\langle\diamondsuit|\hat{L}_{M\to Y}|\diamondsuit\rangle_Y & {}_Y\langle\diamondsuit|\hat{L}_{M\to Y}|\spadesuit\rangle_Y \\ {}_Y\langle\spadesuit|\hat{L}_{M\to Y}|\heartsuit\rangle_Y & {}_Y\langle\spadesuit|\hat{L}_{M\to Y}|\diamondsuit\rangle_Y & {}_Y\langle\spadesuit|\hat{L}_{M\to Y}|\spadesuit\rangle_Y \end{pmatrix}$
$\hat{L}_{M\to Y_{ij}} = \langle\heartsuit_i|\hat{L}_{M\to Y}|\heartsuit_j\rangle$
PP.S
$\hat{L}_{M\to Y}|\heartsuit\rangle_Y \neq \hat{L}_{O\to Y}|\heartsuit\rangle_Y$
ME → YOU
OTHER → YOU
$|\heartsuit\rangle_Y$
$LQ_{M\to Y}$
$LQ_{O\to Y}$
ME
OTHER